



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

June 20, 2012

Via E-mail

David P. Vieau
Chief Executive Officer
A123 Systems, Inc.
321 Arsenal Street
Watertown, MA 02472

**Re: A123 Systems, Inc.
Post-Effective Amendment No. 1 to Form S-3
Filed May 31, 2012
File No. 333-173122**

Dear Mr. Vieau:

We have limited our review of your registration statement to those issues we have addressed in our comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. Where you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to the comments, we may have additional comments.

General

1. Please supplementally discuss the timing and circumstances of your filing of this post-effective amendment, in light of the guidance set forth in Compliance and Disclosure Interpretations, Securities Act Rules, Question 198.06. Please also tell us whether you have made any sales pursuant to this registration statement since the filing of your Form 10-K.

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2. Please expand your prospectus summary to discuss your recent financing transactions, including the "additional sale option" arrangement described in your prospectus supplement filed on January 20, 2012. Please explain the impact of these transactions on your ability to obtain additional financing and the terms on which you may be able to obtain such financing.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, before we can declare the amended registration statement effective, the company should provide us with a letter, acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please contact Joseph McCann at (202) 551-6262 or Mary Beth Breslin, Senior Attorney, at (202) 551-3625 with any questions.

Sincerely,

/s/ Mary Beth Breslin for

Amanda Ravitz
Assistant Director

cc (via email): Susan L. Mazur, Esq. – Latham & Watkins LLP